

Work Order ID 94605

94605

Page 1

December-19-12 1:05:50 PM

Item ID: D3155-042

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Bracket Assembly

Start Date: 12/19/12 Start Qty: 2.00

2

Cust Item ID:

Required Date: 1/11/13 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan:

PL

Date 13-01-2

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr								
D3155	Rev D								
100		0.00							
100	BAND SAW								
Bandsaw	Memo	0.00							
Jeaspa Bandsaw	Cut blanks: (2.000" x 1.000") x 6.87" Long Bar								
110		0.00							
110	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1-Machine as per Folio FA315 and Dwg D31552-Deburr and Tumble3- Identify as D3155-2								
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120	Memo	0.00							
QC									
Quality Control									

Oct 28 2013-03-25

2 Ø

13-03-28

2 Ø

P TO

13-03-28

2 Ø

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: John Date: 13/04/20QA Closed: ✓ Date: 13/4/10

Work Order: <u>94605</u>	DISPOSITION	AGAINST DEPARTMENT/PROCESS					
Part No. <u>D 3155-042</u>	Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input checked="" type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input checked="" type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>		
NCR No. <u>13.24(01)</u>							

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	<u>13/04/02</u>	<u>110</u>	<u>1</u>	<u>Ø 0.375 holes, measured Ø 0.3755</u>	<u>A.P.</u> <u>13/04/02</u>	<u>No action required. Ensure 03155-3 Bushing is Min O.D. Ø 0.376</u>	<u>A.P.</u> <u>13/04/02</u>	<u>DAS 08 9-89</u>	<u>DAS 05 8-89</u>
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General			
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain	<input type="checkbox"/> Ovalized	<input type="checkbox"/> Pressure/Forced
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Weld
<input type="checkbox"/> Crushed/Crimped.	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Wrong Stock Pulled
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Part Moved	
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Positioned Wrong	
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread	<input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Other
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset		
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration		
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence		
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions		

Work Order ID 94605

December-19-12 1:05:50 PM

94605

Page 2

Item ID: D3155-042

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Bracket Assembly

Stop

NS2

Start Date: 12/19/12 Start Qty: 2.00

2

Cust Item ID:

Required Date: 1/11/13 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

130

QC

Quality Control

QC8- Inspect parts - second check

0.00

DA 13/04/02

~~130~~

2

~~DA 08 9-89~~

140

140

HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

2 13/04/02

150

150

QC

Quality Control

QC- Inspect Part Finish

0.00

DA 30

13/04/04

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. _____	Work Order:	Part No. _____	Rework	Skid-tube	Crosstube	Water Jet	Engineering			
NCR No. _____	Part No. _____	NCR No. _____	Scrap	Machining	Small Fab	Prod. Eng. Coor.	Quality			
			Use-as-is	Thermoforming	Finishing	Rec/Store/Packaging	Other			
			Work Order Update	Large Fab	Composite	Supplier				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										
FAULT CATEGORY										
Landing Gear				General						
Bending	Bend	Grain	Ovalized	Pressure/Forced						
Centre Not Concentric to O/S	BOM/Route	Hardware	Over/Under tolerance	Temperature/Cure						
Cracks	Broken/Damaged	Inspection Incomplete	Part Incorrect	Weld						
Crushed/Crimped.	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled						
Cuffs	Contamination	Maintenance	Part Moved							
Heat Treat	Countersink	Mislabeled	Positioned Wrong							
Inspection Strip in Tube	Cut Too Short	Misread	Power Loss/Surge							
Ripples in Bend	Drill Holes	Offset								
Torque Waves in Extrusion	Drawing	Out of Calibration								
Turning Sequence	Finish	Out of Sequence								
Wave/Twist in Tube	Folio	Outside Dimensions								

Work Order ID 94605

December-19-12 1:05:50 PM

94605

Page 3

Item ID: D3155-042

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Bracket Assembly

Stop

NS2

Start Date: 12/19/12 Start Qty: 2.00

2

Cust Item ID:

Required Date: 1/11/13 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

160

Small Fab

Small Fab

0.00

2 0

FF
13-04-04

Small Fab

Memo

0.00

Press fit bushing as per Dwg D3155

170

170

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

21
13-4-4

2

180

180

Packaging

Packaging

Identify as per dwg & Stock Location:

87030 0.00

Memo

0.00

2X

5
13-4-8

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS						
Part No. _____	Work Order Update	Rework <input type="checkbox"/>	Scrap <input type="checkbox"/>	Use-as-is <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Machining <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>		
NCR No. _____		Thermoforming <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Finishing <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>	Other <input type="checkbox"/>		
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled

Work Order ID 94605

December-19-12 1:05:50 PM

94605

Page 4

Item ID: D3155-042

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Bracket Assembly

Stop

NS2

Start Date: 12/19/12 Start Qty: 2.00

2

Cust Item ID:

Required Date: 1/11/13 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

13/4/8 28

190

QC

Quality Control

Memo

0.00

13/4/8

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
				Bending <input type="checkbox"/>	Bend <input type="checkbox"/>	Grain <input type="checkbox"/>	Ovalized <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>			
Centre Not Concentric to O/S				BOM/Route <input type="checkbox"/>	Hardware <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>				
Cracks <input type="checkbox"/>				Broken/Damaged <input type="checkbox"/>	Inspection Incomplete <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Weld <input type="checkbox"/>				
Crushed/Crimped. <input type="checkbox"/>				Burrs <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>				
Cuffs <input type="checkbox"/>				Contamination <input type="checkbox"/>	Maintenance <input type="checkbox"/>	Part Moved <input type="checkbox"/>					
Heat Treat <input type="checkbox"/>				Countersink <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>					
Inspection Strip in Tube <input type="checkbox"/>				Cut Too Short <input type="checkbox"/>	Misread <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Other <input type="checkbox"/>				
Ripples in Bend <input type="checkbox"/>				Drill Holes <input type="checkbox"/>	Offset <input type="checkbox"/>						
Torque Waves in Extrusion <input type="checkbox"/>				Drawing <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>						
Turning Sequence <input type="checkbox"/>				Finish <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>						
Wave/Twist in Tube <input type="checkbox"/>				Folio <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>						

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other				
Part No. _____											
NCR No. _____											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear			General								
Bending	Bend	Grain	Ovalized	Pressure/Forced							
Centre Not Concentric to O/S	BOM/Route	Hardware	Over/Under tolerance	Temperature/Cure							
Cracks	Broken/Damaged	Inspection Incomplete	Part Incorrect	Weld							
Crushed/Crimped.	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled							
Cuffs	Contamination	Maintenance	Part Moved								
Heat Treat	Countersink	Mislabeled	Positioned Wrong								
Inspection Strip in Tube	Cut Too Short	Misread	Power Loss/Surge								
Ripples in Bend	Drill Holes	Offset									
Torque Waves in Extrusion	Drawing	Out of Calibration									
Turning Sequence	Finish	Out of Sequence									
Wave/Twist in Tube	Folio	Outside Dimensions									

D3065-5DART AEROSPACE LTD		Work Order:	94605
Description: Bracket		Part Number:	D3155-2
Inspection Dwg: D3155 Rev: C		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.166	+0.005/-0.001	.168	✓		SLO8	Vern
Ø0.375	+0.000/-0.005	.375	✓			
6.150	+/-0.010	6.150	✓			
0.262	+/-0.010	.260	✓			
1.400	+/-0.010	1.400	✓			
0.307	+/-0.010	.299	✓			
1.969	+/-0.010	1.971	✓			
0.322	+/-0.010	.321	✓			
0.779	+/-0.010	.783	✓			
0.166	+/-0.010	.168	✓			
0.307	+/-0.010	.297	✓			
1.300	+/-0.010	1.302	✓			
0.130	+/-0.010	.123	✓			
0.150	+/-0.010	.148	✓			
0.150	+/-0.010	.144	✓			
0.853	+/-0.010	.859	✓			
0.163	+/-0.010	.169	✓			
R0.063	+/-0.010	.063	✓			
5.455	+/-0.010	5.460	✓			
4.400	+/-0.010	4.400	✓			
2.060	+/-0.010	2.060	✓			
0.021	+/-0.010	.030	✓			

Measured by:	<i>sf</i>	Audited by:	<i>b.a</i> 9/6/03	Prototype Approval:	N/A
Date:	13-03-28	Date:	13-03-28	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.06.28	New Issue	P/O D3155-042	KJ/JLM <i>sf</i>

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. D
CE	dt	D3155	SHEET 2 OF 3

DATE

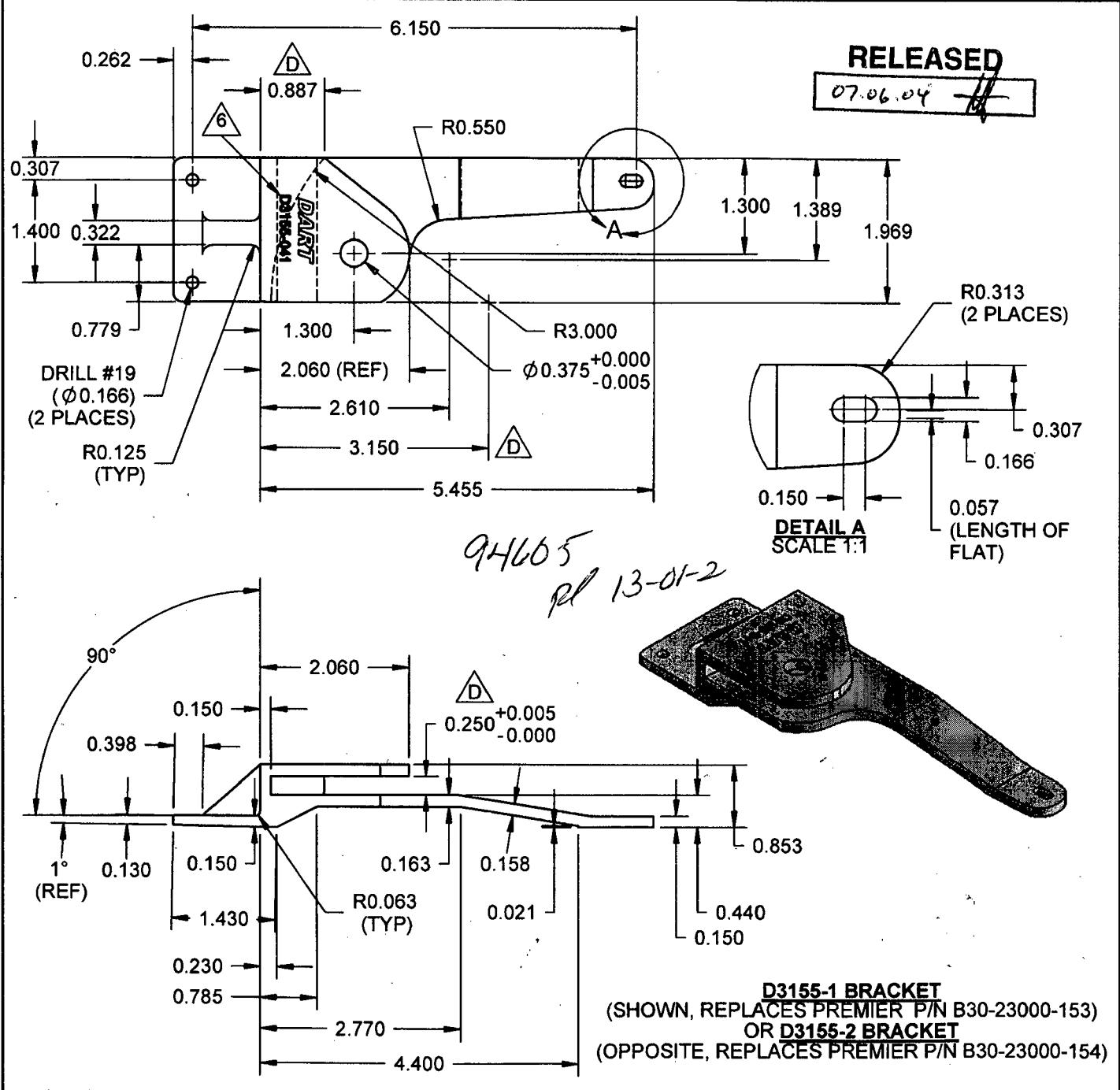
07.01.18

TITLE

BRACKET ASSEMBLY

SCALE

1:2

**NOTES:**

- 1) MATERIAL: ALUMINUM BAR 6061-T6/T651 PER QQ-A-225/8 OR QQ-A-200/8 OR AMS 4117 OR AMS 4128 OR AMS 4115 OR AMS 4116 OR AMS 4160 (REF DART SPEC M6061T6B)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO AS SHOWN TO MAX DEPTH OF 0.010 WITH A MIN RAD OF 0.010

COPYRIGHT © 2002 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.